

Notice of Allowability

Application No.

10/788,711

Applicant(s)

HOWARD, GREGORY E.

Examiner

John B. Vigushin

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Amendment filed 10 July 2006.
2. ☒ The allowed claim(s) is/are 1-6, 8, 10-12 and 15-18.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

DETAILED ACTION

1. The present Office Action is responsive to Applicant's Amendment filed July 10, 2006. Claims 1-6, 8 and 10-19 are pending in the instant amended Application. Claim 13 (amended), 14 (original) and 19 (new) are directed to the invention non-elected without traverse on March 14, 2006 (see p.2 in the Office Action of April 04, 2006) and are accordingly withdrawn from further consideration by the Examiner under 37 CFR § 1.142(b). Claims 1-6, 8, 10-12 and 15-18 remain under consideration in the instant amended Application.

EXAMINER'S AMENDMENT

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR §1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

A) In order to cure the antecedent basis defects under 37 CFR §1.75(a) remaining in the amended Claim 8 and those introduced into the newly added product Claims 15-18, the instant Application has been further amended as follows, similarly to the Applicant's amendment in line 5 of Claim 1, responsive to the Examiner's previously indicated objection, that corrected the antecedent basis defect of the claim. Also, a minor informality in Claim 8 has been corrected by Examiner's Amendment:

In Claim 8, line 8: "insulator" has been changed to --insulating substrate--.

In Claim 8, the sixth line, counting from the final line of the claim:

“cofigured” has been changed to --configured--.

In Claim 15, line 7: “insulator” has been changed to --insulating substrate--.

In Claim 16, line 1: “insulator” has been changed to --insulating substrate--.

In Claim 17, line 1: “insulator” has been changed to --insulating substrate--.

In Claim 18, line 1: “insulator” has been changed to --insulating substrate--.

B) This application is in condition for allowance except for the presence of claims 13, 14 and 19 directed to an invention non-elected without traverse. Accordingly, **Claims 13, 14 and 19 have been cancelled.**

Allowable Subject Matter

3. Claims 1-6, 8, 10-12 and 15-18 have been allowed.

4. The following is an examiner's statement of reasons for allowance:

In Claims 1-6 and 17, patentability resides in the allowable subject matter of now-cancelled Claim 7 incorporated into base Claim 1, in combination with the other limitations of base Claim 1.

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In Claims 8, 10-12 and 18, patentability resides in the allowable subject matter of now-cancelled Claim 9 incorporated into base Claim 8, in combination with the other limitations of base Claim 8.

In Claims 15-16, patentability resides in *the vias having a diameter no greater than about 0.3 mm, and a distance from each other no greater than about 0.3 mm*, in combination with the other limitations of base Claim 15.

5. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

6. Claims 1-6, 17, 8, 10-12, 18 and 15-16 will be renumbered as Claims 1-14, respectively, for publication in the issued patent.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a) Boggs et al. (US 2005/0063166 A1) discloses signal-carrying vias 210 and plane vias 220 (i.e., vias attached to a conductive plane, e.g., ground/power/reference plane 30; see paragraph [0022]). Signal-carrying vias 210 have sheet-like extensions 214-218 in selected planes wherein the sheet-like extensions are variously connected to electrical traces in the selected planes (paragraph [0023]). Boggs et al. does not specify the dimensions of, or teach a special relationship between, the via diameter and via

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pitch required by Applicant's base Claims 1, 8 and 15, in combination with the other product limitations of those base claims, respectively.

b) Shiraki (US 6,969,808 B2) discloses, in Figs. 3, 4, 8 and 9, a via 21 having sheet-like extensions 31 that in selected planes, wherein the sheet-like extensions 31 are respectively connected to signal lines 11a,b. Shiraki does not specify the dimensions of, or teach a special relationship between, the via diameter and via pitch (for a *plurality* of vias 21, which is also not taught; nor for the pitch between via 21 and vias 41) required by Applicant's base Claims 1, 8 and 15, in combination with the other product limitations of those base claims, respectively.

c) Palanduz et al. (US 2004/0188826 A1) discloses, in Fig. 2A, vias 205A,B, each having sheet-like extensions 150 and 160 (paragraph [0024]) but does not specify the dimensions of, or teach a special relationship between the via diameter and via pitch required by Applicant's base Claims 1, 8 and 15, in combination with the other product limitations of those base claims, respectively.


d) Tsai et al. (US 2005/0248025 A1) discloses, in Figs. 3, 4A,B and 5A,B, a multilayer seal ring 20 comprising vias 46A,B and sheet-like extensions 44, 50 and 52, wherein the vias 46A,B have diameters two or three orders of magnitude less than the "about 0.1 mm" (paragraphs [0025], [0027] and [0028]) and do not teach the pitch of vias 46, as required by Applicant's base Claims 1, 8 and 15, in combination with the other product limitations of those base claims, respectively. The seal ring 20 is so constructed to effectively attenuate unwanted signals coupled thereto (paragraph [0029]).

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8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John B. Vigushin whose telephone number is 571-272-1936. The examiner can normally be reached on 8:30AM-5:00PM Mo-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Elvin Enad can be reached on 571-272-1990. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


John B. Vigushin
Primary Examiner
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jbv
September 22, 2006